



Department of Energy

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JUL 25 2011

PPPO-03-1251788-11

Ms. Maria Galanti
Site Coordinator
Ohio Environmental Protection Agency
Southeast District Office
2195 Front Street
Logan, Ohio 43138

Dear Ms. Galanti:

TRANSMITTAL OF D1 CONSTRUCTION COMPLETION REPORT FOR PHASES I AND II OF THE REMOVAL OF THE X-760 CHEMICAL ENGINEERING BUILDING AT THE PORTSMOUTH GASEOUS DIFFUSION PLANT, PIKETON, OHIO (DOE/PPPO/03-0196&D1)

Reference:

Letter from M. Galanti to J. Bradburne, "Construction Completion Report for Phases I and II of the Removal of the X-760 Chemical Engineering Building," dated May 26, 2011.

Enclosed, please find the U.S. Department of Energy (DOE) transmittal of the revised *Construction Completion Report for Phases I and II of the Removal of the X-760 Chemical Engineering Building at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE/PPPO/03-0196&D1). This revision is being submitted to the Ohio Environmental Protection Agency (Ohio EPA) to address the modification to pages #9 and #15 of the document. On these pages it was noted that the X-623 Groundwater Treatment Facility (GWTF) was mistakenly noted as the X-622 GWTF. The enclosed document rectifies this oversight. We apologize for any confusion this may have caused.

As stated in the Ohio EPA letter dated May 26, 2011, the referenced letter serves as the Ohio EPA concurrence with the modified the Construction Completion Report for Phases I and II of the Removal of the X-760 Chemical Engineering Building.

If you have any questions or require additional information, please contact Kristi Wiehle of my staff at (740) 897-5020.

Sincerely,

Joel B. Bradburne
Portsmouth Site Lead
Portsmouth/Paducah Project Office

Enclosure:

Construction Completion Report for Phases I and II of the Removal of the X-760 Chemical Engineering Building at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio

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**CONSTRUCTION COMPLETION REPORT
FOR PHASES I AND II OF THE
REMOVAL OF THE X-760 CHEMICAL ENGINEERING BUILDING
AT THE PORTSMOUTH GASEOUS DIFFUSION PLANT,
PIKETON, OHIO**



**U.S. Department of Energy
DOE/PPPO/03-0196&D1**

June 2011

**Prepared by:
FBP LLC, a Joint Venture Under Contract DE-AC30-10CC40017**

FBP-ER-GEN-RPT-0021, Revision 3

This document is approved for public release per review by:

Henry H. Thomas 01/18/2011
PORTS Classification/Information Office Date

**CONSTRUCTION COMPLETION REPORT
FOR PHASES I AND II OF THE
REMOVAL OF THE X-760 CHEMICAL ENGINEERING BUILDING
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PIKETON, OHIO**

**U.S. Department of Energy
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ACRONYMS

ARARs	applicable and relevant or appropriate requirements
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOE	U.S. Department of Energy
dpm/100 sq cm	disintegrations per minute per 100 square centimeters
EE/CA	Engineering Evaluation/Cost Analysis
HEPA	high efficiency particulate air
LLW	low level waste
Ohio EPA	Ohio Environmental Protection Agency
PCBs	polychlorinated biphenyls
PORTS	Portsmouth Gaseous Diffusion Plant
PPE	personal protective equipment
RAWP	Removal Action Work Plan
RCRA	Resource Conservation and Recovery Act
SVOCs	semi-volatile organic compounds
TSCA	Toxic Substances Control Act
µg/100 sq cm	micrograms per 100 square centimeters

EXECUTIVE SUMMARY

This Construction Completion Report documents the completion of Phases I and II of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) non-time-critical removal action for the X-760 Chemical Engineering Building (hereafter referenced as the X-760 Building) at the Portsmouth Gaseous Diffusion Plant (PORTS). The X-760 Building was located at coordinates E8000 and N7400, south of the X-710 Building and east of the X-326 Building in Quadrant I of PORTS.

The X-760 Building, constructed in 1954, was a two-story masonry building which was approximately 8000 sq ft. The X-760 Building was originally used for chemical and mechanical engineering pilot- and demonstration-scale investigations. An associated neutralization pit was located north of the building footprint.

Based on the data summarized in the *Engineering Evaluation/Cost Analysis for the X-760 Chemical Engineering Building at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE 2010a) and the *X-760 Chemical Engineering Building Removal Action Work Plan at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio (X-760 RAWP)* (DOE 2010c), asbestos, lead-based paint, polychlorinated biphenyls (PCBs), radionuclides, semi-volatile organic compounds, cis-1,2-dichloroethene, and select metals were contaminants of concern.

The X-760 Building CERCLA non-time-critical removal action Phase I activities included removal of the above-grade X-760 Building structure; the application of a fixative and sealant to the remaining concrete slab; and removal of water that had accumulated in the neutralization pit. Equipment that was used included excavators and other equipment to support site grading, debris loading, and wastewater movement. The concrete slab that remained after the above-grade structure was demolished was sealed to fix contaminants in place. Because of the extent of radiological and PCB contamination, no equipment or materials from the X-760 Building were recycled or reused. Phase I also included disconnecting and terminating piping and utilities, as required, and waste disposal.

The X-760 Building CERCLA non-time-critical removal action Phase II activities included removal of the X-760 Building concrete slab, foundation, and neutralization pit; removal of piping and utilities located beneath the X-760 Building slab footprint; site re-contouring; site restoration; demobilization; and waste disposal.

The X-760 building CERCLA non-time-critical removal action Phase I and Phase II activities have been completed in accordance with the X-760 RAWP and the applicable and relevant or appropriate requirements outlined in the *Action Memorandum for the X-760 Chemical Engineering Building at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio* (DOE 2010b).

1. INTRODUCTION

The U.S. Department of Energy (DOE) developed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) non-time-critical removal action for the X-760 Chemical Engineering Building (hereafter referenced as the X-760 Building) located at the Portsmouth Gaseous Diffusion Plant (PORTS) to be conducted in two phases. This Construction Completion Report documents the completion of both phases of the CERCLA non-time-critical removal action. Phase I focused on the removal of the above-grade X-760 Building structure and fixed equipment, the application of a fixative and sealant to the remaining concrete slab, and removal of water that had accumulated in the neutralization pit. Phase II focused on the removal of the X-760 Building slab, foundation (footers), and neutralization pit.

The X-760 Building was located at coordinates E8000 and N7400, south of the X-710 Building and east of the X-326 Building in Quadrant I of PORTS. Figure 1 shows the former location of the X-760 Building at the plant site. The ground floor and second floor layouts, along with associated interior photographs, are provided in Figures 2 and 3, respectively. Figure 4 is a photographic view of the east exterior of the X-760 Building.

1.1 CONSTRUCTION COMPLETION REPORT PURPOSE AND SCOPE

This Construction Completion Report documents completion of Phase I and Phase II of the X-760 Building CERCLA non-time-critical removal action, as described in the *X-760 Chemical Engineering Building Removal Action Work Plan at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio (X-760 RAWP)* (DOE 2010c). Removal action alternatives for the X-760 Building were evaluated in the *Engineering Evaluation/Cost Analysis for the X-760 Chemical Engineering Building at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio (X-760 EE/CA)* (DOE 2010a). The decision to remove the X-760 Building was documented in the *Action Memorandum for the X-760 Chemical Engineering Building at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio (X-760 Action Memorandum)* (DOE 2010b).

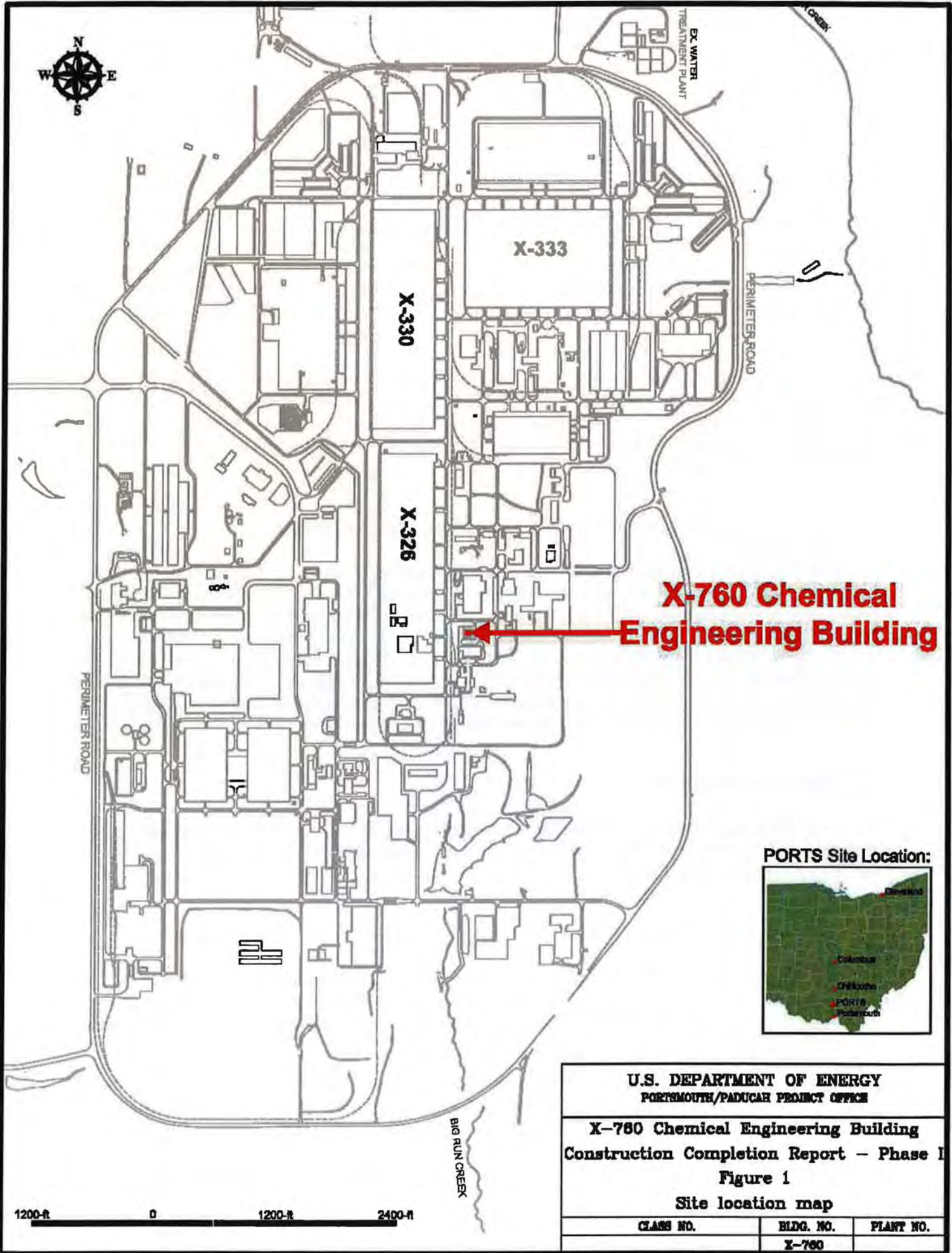
1.2 AREA DESCRIPTION

The X-760 Building was located in the south-central portion of the PORTS property in the area identified as Quadrant I in the *Quadrant I Resource Conservation and Recovery Act Building Investigation Report* (DOE 1996).

1.3 SITE DESCRIPTION AND HISTORY

The X-760 Building, constructed in 1954, was a two-story masonry building which was approximately 8000 sq ft. The X-760 Building was originally used for chemical and mechanical engineering pilot- and demonstration-scale investigations. An associated neutralization pit was located north of the building footprint and is shown in Figure 2.

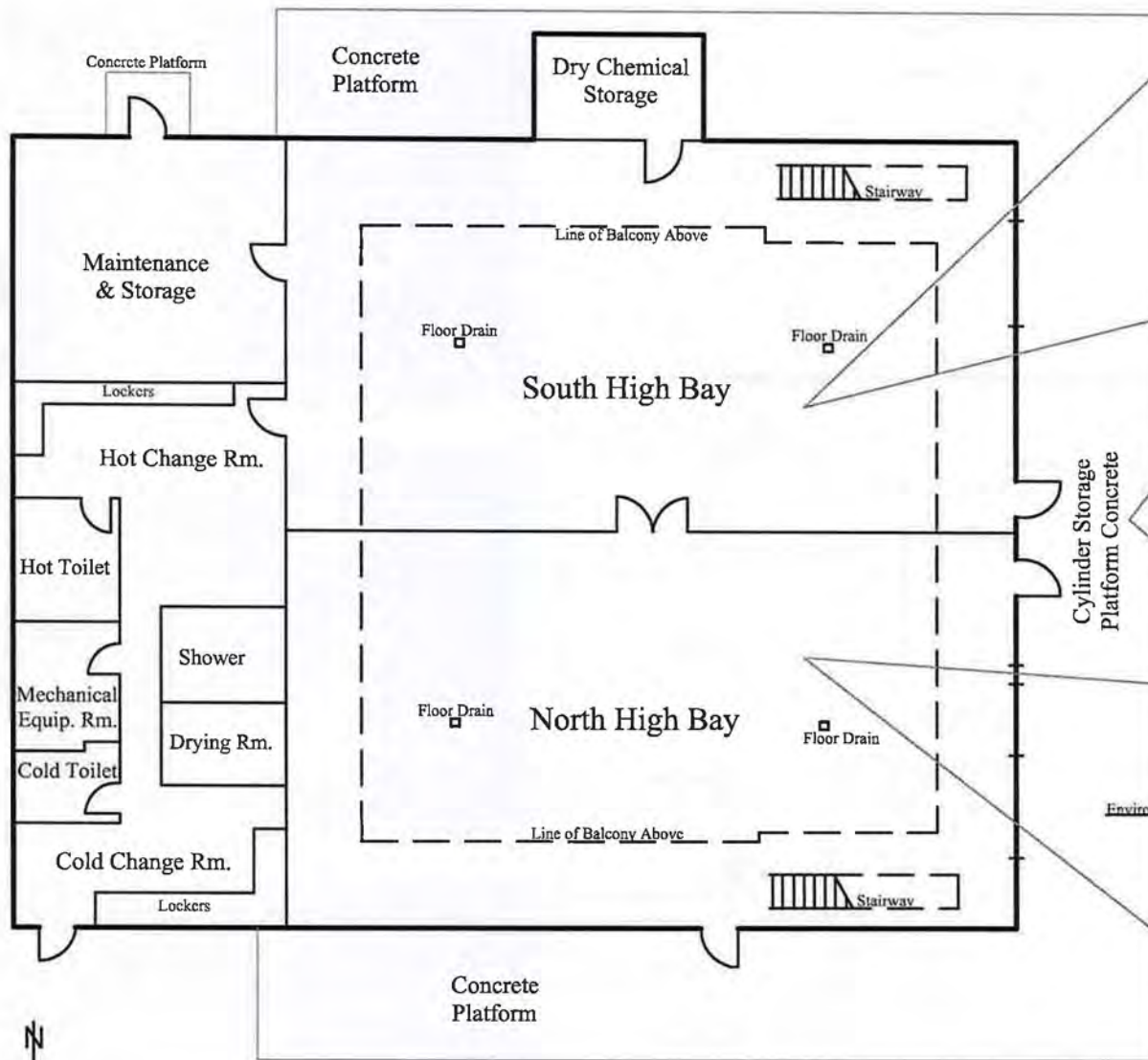
The X-760 Building was located in the south-central portion of PORTS, on the corner of 9th Street and Pike Avenue. Two high bay areas (north and south), a dry chemical storage room, a maintenance and storage room, a mechanical equipment room, restrooms, and lockers were located on the ground floor (see



PORTS Site Location:



U.S. DEPARTMENT OF ENERGY PORTSMOUTH/PADUCAH PROJECT OFFICE		
X-760 Chemical Engineering Building Construction Completion Report - Phase I Figure 1 Site location map		
CLASS NO.	BLDG. NO.	PLANT NO.
	X-760	



South High Bay area



Concrete Platform



North High Bay area showing environmental chamber

Cylinder Storage
Platform Concrete

Environmental Chamber



Legend

- Exterior Wall
- Exterior Porch Areas and Neutralization Pit
- Interior Walls

Neutralization Pit
(Approximate Location)

U.S. DEPARTMENT OF ENERGY
PORTSMOUTH/PADUCAH PROJECT OFFICE

X-760 Chemical Engineering Building
Construction Completion Report – Phase I

Figure 2

X-760 Building ground floor layout
and neutralization pit

CLASS NO.	BLDG. NO.	PLANT NO.
	X-760	



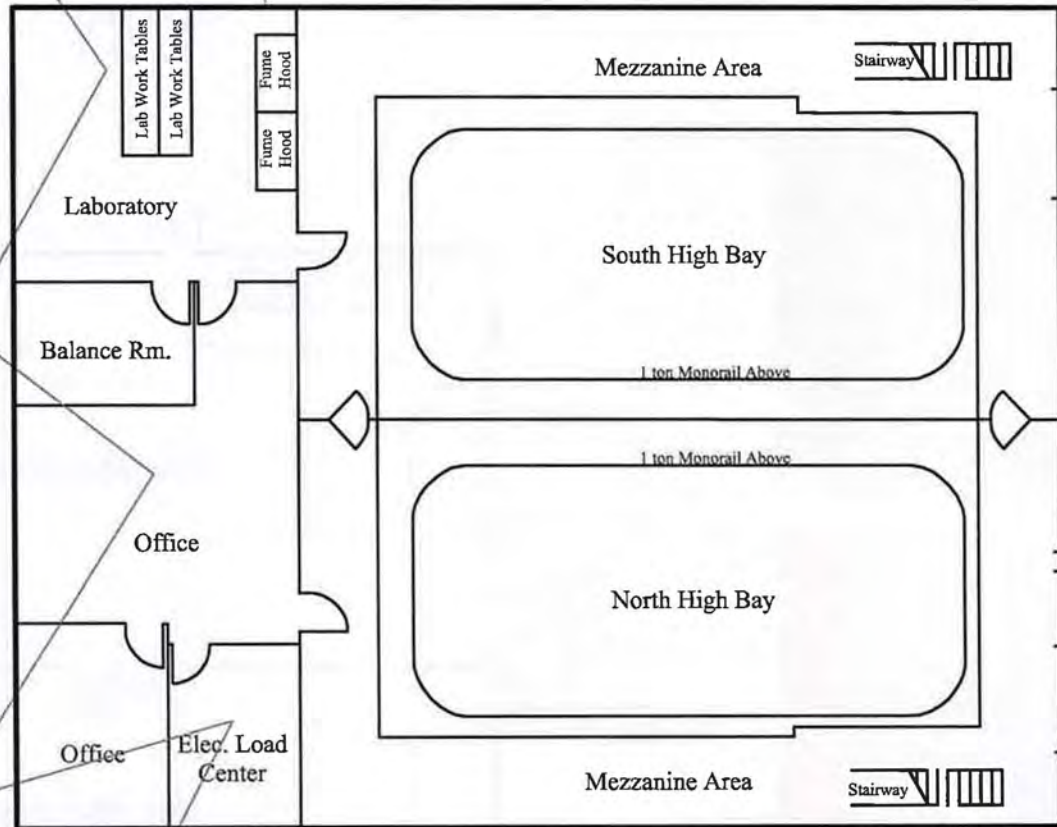
Laboratory



Office



Electrical load center



Legend

- Exterior Wall
- - - Interior Walls

U.S. DEPARTMENT OF ENERGY PORTSMOUTH/PADUCAH PROJECT OFFICE		
X-760 Chemical Engineering Building Construction Completion Report – Phase I		
Figure 3 X-760 Building second floor layout and interior photographs		
CLASS NO.	BLDG. NO.	PLANT NO.
	X-760	



Figure 4. Photograph of the X-760 Building: east side

Figure 2). The laboratory (including a balance room), offices, and an electrical load center were located on the second floor (see Figure 3). A two-story wall separated the two high bay areas, and a steel walkway balcony, or mezzanine, surrounded the entire high bay area. Wastes from processes at the X-760 Building were discharged to the neutralization pit located north of the building.

Examples of studies conducted at the building include the evaluation of methods for recovering uranium from solutions, studies of uranium hexafluoride releases which were conducted in an environmental chamber located in the north high bay area (Figure 2), and the treatment of polychlorinated biphenyls (PCBs) with sodium (TPMC 2006). The building was leased by the United States Enrichment Corporation in 1993 and was returned to DOE on August 31, 2009.

1.4 CONTAMINANTS OF CONCERN

The X-760 Building was characterized and contaminants associated with the building were identified. Characterization data for the X-760 Building are summarized in Section 2.2.2 of the X-760 EE/CA. After the X-760 EE/CA was completed, additional data were collected and documented in Section 1.5.2 and Appendix A of the X-760 RAWP. Based on the data summarized in the X-760 EE/CA and the X-760 RAWP, radionuclides, asbestos, lead-based paint, PCBs, semi-volatile organic compounds (SVOCs), cis-1,2-dichloroethene, and select metals were contaminants of concern. A summary of the data is presented below.

Radiological contamination was present throughout the X-760 Building. Total alpha, removable alpha, total beta-gamma, and removable beta-gamma were surveyed in rooms throughout the building as well as the roof, porch area, outside areas adjacent to the X-760 Building, and the neutralization pit covers. The fixed radiological contamination ranged from less than the minimum detectable level of the instrument used [400 disintegrations per minute per 100 sq cm (dpm/100 sq cm)] to 400,000 dpm/100 sq cm for alpha and from less than the DOE Order 5400.5 free-release criteria (5000 dpm/100 sq cm) to 3,000,000 dpm/100 sq cm for beta/gamma. The maximum fixed contamination surveyed was found on a high efficiency particulate air (HEPA) filter located in the north bay. Fixed radiological contamination was present in most areas surveyed with the exception of the offices, electrical load center, mechanical equipment room, sample preparation area in the laboratory, and the break room. The neutralization pit covers were below free-release levels. Removable radiological contamination results, which were summarized in the X-760 EE/CA, ranged from less than 200 dpm/100 sq cm to 4400 dpm/100 sq cm¹ for alpha and from less than 700 dpm/100 sq cm to 56,000 dpm/100 sq cm for beta/gamma. The maximum removable contamination surveyed within the building was on a drain located in the north bay.

Core samples collected in December 2009 and January 2010 were analyzed for radiological constituents. Radiological contamination was found throughout the building and is summarized in Table 3 of the X-760 RAWP. Radiological wipe samples were collected throughout the X-760 Building in January and March 2010 and were analyzed for radiological constituents. Several radiological analytes were present throughout the X-760 Building and are summarized in Table 5 of the X-760 RAWP.

Asbestos was present in the X-760 Building. The forms of asbestos included floor tile, heat duct insulation, steam supply and condensate return piping insulation, electrical conduit (transite), lab benches, roof flashings, and window caulking.

¹ Table 2 of the X-760 EE/CA erroneously reported the maximum removable alpha result as 600,000 dpm/100 sq cm.

Lead-based paint was present in the X-760 Building on doors, door trim, floors, walls, lockers, handrails, and stairs; concentrations ranged from 360 milligrams per kilogram (mg/kg) to 44,000 mg/kg with a percent by weight range of 0.036 percent to 4.4 percent. Lead-based paint was found on the exterior and interior of the ground floor doors, the floor of the ground floor maintenance and storage room, and the bottom of the wall in the second floor laboratory.

In July 2009, PCB wipe samples were collected from the X-760 Building to characterize the extent of PCB contamination. Six samples were collected from stained areas on the floors; two from the heating, ventilation, and air conditioning system; and one from the north fume hood. PCBs were present at six of the nine sampling locations: five stained floor areas (mezzanine walkway area, east side of the south bay, floor beside a valve located on the east side, the middle of the south area of the building, and the middle of the west area of the building) and the north fume hood. In addition, forty-nine discrete PCB wipe samples were collected from various areas of the X-760 Building in December 2009 and February 2010. PCBs were detected in forty-three of the forty-nine wipe samples. Table 4 of the X-760 RAWP summarizes the PCB wipe sampling results. PCB core samples were collected in December 2009 and January 2010. PCBs were detected in seventeen of the eighteen samples. The results are summarized in Table 2 of the X-760 RAWP.

Wipe samples collected from various locations in the X-760 Building indicated the presence of twenty-three metals and thirteen SVOCs. Core samples collected subsequent to completion of the X-760 EE/CA in December 2009 and January 2010 verified the presence of eight inorganic constituents. The inorganic core sampling results are summarized in Table 1 of the X-760 RAWP.

A chromic acid spill was documented at the X-760 Building. Chromium wipe sample results ranged from 7.0 micrograms per 100 sq cm ($\mu\text{g}/100 \text{ sq cm}$) to 776 $\mu\text{g}/100 \text{ sq cm}$. The highest chromium concentrations were found on the laboratory floor.

Water samples collected in June 2009 from the neutralization pit sump indicated the presence of chromium, lead, and mercury in amounts exceeding the Ohio River Drainage Basin Water Quality Criteria. An estimated result for cis-1,2-dichloroethene also was above its Ohio River Drainage Basin Water Quality Criterion.

Six perchlorate wipe samples were collected from the north and south fume hoods in the second floor laboratory. As shown in Table 6 of the X-760 RAWP, perchlorate was detected in all three samples collected from the north fume hood, and in two of the three samples collected from the south fume hood.

In April 2004, the extent of beryllium contamination was evaluated by collecting sixty wipe samples from representative areas in the X-760 Building. Several results were above 0.2 $\mu\text{g}/100 \text{ sq cm}$, which is the maximum removable beryllium concentration that the Title 10 Code of Federal Regulations Part 850 Chronic Beryllium Disease Prevention Program allows to be present on equipment or surfaces of items intended for release to the general public or for use in a non-beryllium area in a DOE facility. No equipment or materials from the X-760 Building were recycled or reused.

1.5 PRE-DEMOLITION ACTIVITIES

Pre-demolition activities were initiated prior to the start of the X-760 Building CERCLA non-time-critical removal action described in this document. The pre-demolition activities, which were conducted as maintenance actions under DOE's Atomic Energy Act authority, were executed in accordance with all statutory and regulatory requirements including, but not limited to, the National Environmental Policy Act of 1969 and in accordance with all applicable State of Ohio's laws and regulations. Pre-demolition

activities included site preparation; mobilization and installation of field trailers; installation of site controls; disconnecting and isolating utilities (other than fire suppression, communication, sanitary water, and critical alarm systems); draining and purging the fluorine gas system equipment and piping; draining and containerizing fluids; removing non-fixed equipment; disposing of fluorescent light ballasts; removing and disposing of Resource Conservation and Recovery Act (RCRA)/Toxic Substances Control Act (TSCA) waste and universal waste from the interior; and removing and disposing of asbestos-containing material, as practicable.

1.6 NON-TIME-CRITICAL REMOVAL ACTION PURPOSE AND OBJECTIVES

Phase I of the X-760 Building CERCLA non-time-critical removal action included the removal of fixed equipment, removal of the above-grade X-760 Building structure, application of a fixative and sealant to the remaining concrete slab, removal of water that had accumulated in the neutralization pit, and waste disposal. Piping and utilities that were disconnected were terminated and plugged, as required.

Phase II of the X-760 Building CERCLA non-time-critical removal action included removal of the X-760 Building concrete slab, foundation, and neutralization pit; removal of piping and utilities located beneath the X-760 Building slab footprint; site re-contouring; site restoration; demobilization; and waste disposal.

The following objectives were developed for the removal activities:

- Reduce the potential exposure to on-site personnel from hazardous substances due to the structural deterioration of the X-760 Building; and
- Control removal of the X-760 Building to minimize or eliminate the potential health and environmental impacts created by the potential uncontrolled release of contaminated dust, equipment, and building materials from the structure as it deteriorates.

2. SUMMARY OF TASKS COMPLETED

The X-760 Building CERCLA non-time-critical removal action Phase I and Phase II activities have been completed in accordance with the X-760 RAWP and the applicable and relevant or appropriate requirements (ARARs) outlined in the X-760 Action Memorandum. Associated activities outlined in the X-760 ARARs were completed to meet the substantive requirements of the National Historic Preservation Act. Photographs of the X-760 Building before, during, and after demolition are provided in Appendix A.

2.1 PHASE I ACTIVITIES

2.1.1 Removal of Equipment

Internal fixed equipment, including piping, was removed using a forklift or excavator equipped with a shear. To the extent possible, fixed equipment was removed intact; however, items were size-reduced as necessary for packaging purposes. Equipment was placed in Department of Transportation-approved containers for disposal. Oil was drained from the equipment and piping during maintenance activities conducted before the removal action was initiated. This task also included the opening of walls and other obstructions to access areas needed to grout the piping that penetrated the X-760 Building slab.

To avoid disturbing the X-760 Building soil, above-grade utilities and piping were removed down to the remaining concrete slab. Prior to demolition of the above-grade structure, the sanitary sewer and storm sewer lines were plugged where drains penetrated the building slab. The cold water line leading to the neutralization pit was plugged prior to the start of the X-760 Building CERCLA non-time-critical removal action. The locations in which piping was plugged as well as the underground piping and utilities remaining at the X-760 Building site at the end of Phase I of the CERCLA non-time-critical removal action are shown in Figure 5. Note that exact locations of underground piping and utilities were not verified (e.g., via excavation or ground penetrating radar) at the end of Phase I; therefore, Figure 5 may not reflect as-built conditions or configurations. The disconnected steam, condensate return, dry air, nitrogen, and fluorine utility lines running from the building to their tie-in points along the project site perimeter were removed and disposed along with the building debris.

2.1.2 Installation of Collection and Containment System

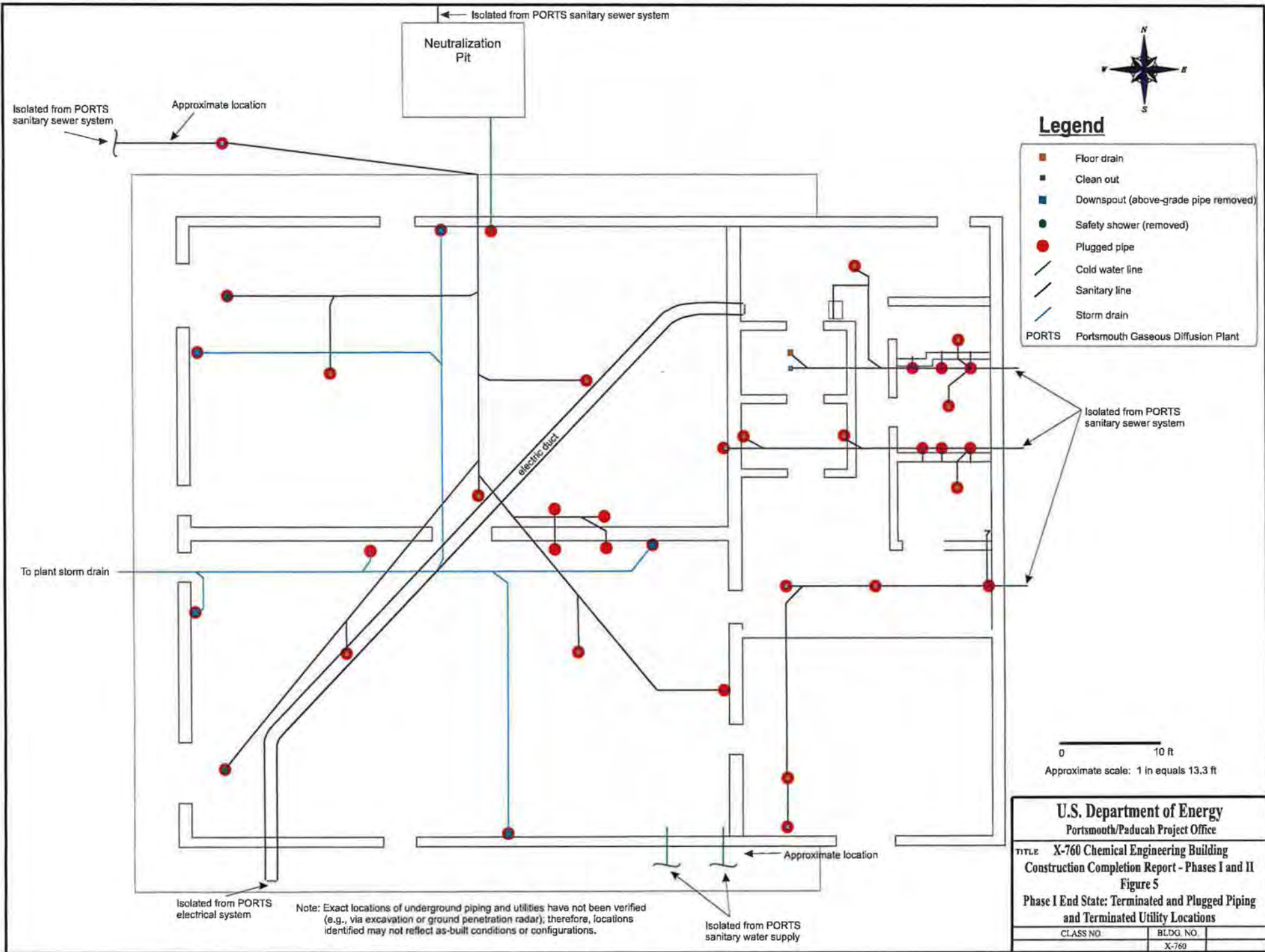
A collection and containment system was installed around the X-760 Building prior to demolition to prevent the migration of PCBs from the area during demolition. In addition, storm water controls were installed at nearby catch basins.

The construction and installation of the collection and containment system is described in the *Work Plan for the Construction and Installation of the Exterior Collection and Containment System for the X-760 Chemical Engineering Building at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*, an appendix to the X-760 Action Memorandum. The collection and containment system consisted of a lined trench, lined barrier system, pump station, equalization tank, MyCelx filtration system to remove PCBs, and frac tanks. The below-grade lined trench was installed adjacent to the east edge of the X-760 Building. The barrier system was installed at grade along the north, west, and south sides of the X-760 Building on the building slab to divert water to the east side collection trench. The barrier system was fabricated with an inverted PVC half pipe and was lined with 40-millimeter polyvinyl chloride (PVC) liner. A 16-in Schedule 40 PVC pipe transported collected water under the access road to the treatment system pump station where liquids were pumped into an equalization tank located on the northeast corner of the project site. The water was then pumped from the equalization tank through a MyCelx water filtration system to remove any PCBs, and then to final holding tanks. Water that was processed through the filtration system was sampled for PCBs and, based on analytical results and following consultation with the Ohio Environmental Protection Agency (Ohio EPA), was processed through the X-623 Groundwater Treatment Facility.

2.1.3 Demolition of Above-grade Structure

Controlled demolition of the X-760 above-grade structure was performed by positioning equipment and waste containers strategically to maximize demolition rates, minimize distance between debris and containers, and prevent unsafe conditions. Four 400-Class excavators were deployed to perform controlled demolition of the X-760 Building. Demolition work commenced by controlled removal of the porch support pipe stanchions on the west and south sides of the X-760 Building. Following removal of the stanchions, the porch was cut and removed; this approach pre-loaded the west and south walls so they fell inward toward the building center when pushed. Building walls were pushed toward the building center starting at the southwest corner and proceeding toward the northwest corner. Excavators with processor and shear attachments were used to reduce the rubble to a manageable size. The entire building was reduced to rubble before the container-loading operations were initiated.

After being size-reduced, the debris was direct-loaded into Department of Transportation-approved containers for transfer to the EnergySolutions Clive, Utah facility. Department of Transportation-approved containers were staged on-site awaiting transport for off-site disposal.



← Isolated from PORTS sanitary sewer system

Neutralization Pit

Isolated from PORTS sanitary sewer system

Approximate location



Legend

- Floor drain
- Clean out
- Downspout (above-grade pipe removed)
- Safety shower (removed)
- Plugged pipe
- Cold water line
- Sanitary line
- Storm drain
- PORTS Portsmouth Gaseous Diffusion Plant

Isolated from PORTS sanitary sewer system

To plant storm drain

electric duct

Isolated from PORTS electrical system

Note: Exact locations of underground piping and utilities have not been verified (e.g., via excavation or ground penetration radar); therefore, locations identified may not reflect as-built conditions or configurations.

Isolated from PORTS sanitary water supply

Approximate location

0 10 ft
Approximate scale: 1 in equals 13.3 ft

U.S. Department of Energy	
Portsmouth/Paducah Project Office	
X-760 Chemical Engineering Building	
Construction Completion Report - Phases I and II	
Figure 5	
Phase I End State: Terminated and Plugged Piping and Terminated Utility Locations	
CLASS NO.	BLDG NO.
	X-760

Specific equipment that was utilized includes:

- Track hoes
- Excavators
- Shear attachment
- Processor attachment
- Bucket attachments
- Heavy duty forklifts
- Mechanical and hydraulic shears/grapplers
- Concrete cutting saws

Demolition activities were performed in accordance with the X-760 RAWP and X-760 Building ARARs. Engineering control measures, such as spraying water, were employed as necessary to minimize the release of fugitive dust or other contaminants during this operation. The dust suppression water flowed to the collection and containment system installed around the X-760 Building. Although the demolition materials were moistened by the dust suppression spray, the materials had time to dry before being loaded into containers.

2.1.4 Fix and Seal Concrete Slab

A fixative and sealant was applied to the concrete slab in accordance with the X-760 RAWP. Following removal of the above-grade structure the remaining concrete slab was cleaned of loose debris and coated with epoxy paint. The slab was sealed using one coat of epoxy paint to fix contaminants in place, followed by a coat of different-colored epoxy paint. The collection and containment system remained in place and was operational during the application of fixative and sealant to the slab. After demolition debris was removed and the remaining slab was sealed, the collection and containment system was removed.

2.1.5 Removal of Neutralization Pit Contents

Prior to the start of demolition of the X-760 Building above-grade structure, the neutralization pit was covered with a heavy 40-millimeter vinyl tarp to minimize the accumulation of rainwater in the pit. Prior to the above-grade structure removal, the rainwater that had accumulated in the neutralization pit was removed and transported to the X-623 Groundwater Treatment Facility for disposal. Before removal of the rainwater, samples were collected to determine contaminant concentrations (RCRA metals, PCBs, radiological constituents, and volatile organic compounds) and total suspended solids in the water. DOE consulted with Ohio EPA prior to the release of the water through the X-623 Groundwater Treatment Facility. No visible amount of sediment remained after the completion of neutralization pit dewatering.

2.1.6 Demobilization

Due to the final schedule of Phase II of the X-760 Building CERCLA non-time-critical removal action, demobilization after Phase I was unnecessary for the majority of the demolition equipment. Most of the equipment utilized for Phase I of the removal action was used for Phase II. In addition, various excavator attachments remained at the X-760 Building removal action site during Phase II, awaiting transfer to similar removal action sites at PORTS.

The collection and containment system was demobilized from the X-760 Building removal action site after demolition debris was removed and the remaining slab was sealed. The collection and containment system liners, piping, filters, and MyCelx Versimats were disposed as TSCA low level waste (LLW). Portions of the collection and containment system, including pumps, the barrier system PVC half

pipe, the pump station sump (storage tank), and the treatment trailer containing the MyCelx water filtration system, are being stored at PORTS for future reuse. The collection and containment system frac tanks were removed from the PORTS site.

In addition, the collection and containment system trench located on the east side of the X-760 Building slab was filled with gravel, soil, and sand to facilitate equipment movement during Phase II of the CERCLA non-time-critical removal action. The opening from the removal of the pump station was also re-filled with gravel, soil, and sand.

2.1.7 Equipment Washing and Decontamination

Due to the final schedule of Phase II of the X-760 Building CERCLA non-time-critical removal action, the equipment utilized for Phase I of the removal action did not leave the site prior to the start of Phase II. Therefore, equipment washing and decontamination were unnecessary for Phase I of the removal action with the exception of frac tanks associated with the collection and containment system. The frac tanks were sampled and decontaminated, as necessary, using dry methods, and were removed from the PORTS site.

2.1.8 Phase I End State

At the completion of Phase I of this non-time-critical removal action, the X-760 above-grade structure was removed and a fixative and sealant was applied to the remaining concrete slab. The collection and containment system was removed. The collection and containment system trench located on the east side of the X-760 Building slab and the excavation from the removal of the pump station were filled with gravel, soil, and sand.

The X-760 Building above-grade utilities and piping were removed down to the remaining concrete slab, as described in Section 2.1.1 of this Construction Completion Report. The sanitary sewer and storm sewer lines were plugged where drains penetrated the building slab. The cold water line leading to the neutralization pit was also plugged. The locations in which piping was plugged as well as the underground piping and utilities remaining at the X-760 Building site at the end of Phase I of the CERCLA non-time-critical removal action are shown in Figure 5. Note that exact locations of underground piping and utilities were not verified (e.g., via excavation or ground penetrating radar) at the end of Phase I; therefore, Figure 5 may not reflect as-built conditions or configurations.

2.2 PHASE II ACTIVITIES

2.2.1 Demolish Concrete Slab, Foundations, and Neutralization Pit

The X-760 building slab was demolished, followed by the primary foundations, in accordance with the X-760 RAWP and X-760 Building ARARs. An excavator equipped with a power chisel was used to break the concrete, and an excavator equipped with a concrete processor was used to reduce the concrete pieces to sizes that would meet the receiving facility's waste acceptance criteria. Once the materials were size-reduced, the debris was removed using an excavator equipped with an excavation bucket. Asphalt surrounding the X-760 Building was also broken and removed.

The neutralization pit and foundation were also demolished. As the concrete sides were demolished, the pieces fell into the center of the neutralization pit. The neutralization pit walls and floor were then size-reduced using an excavator and concrete processor. Once the materials were size-reduced, the debris was removed using an excavator equipped with an excavation bucket.

Underground piping and utilities that were located beneath the footprint of the X-760 Building were removed. Figure 6 shows the locations of the former X-760 Building and former neutralization pit. The pipes and utilities were removed from the area shown in Figure 6 and were capped as required.

Water was sprayed as necessary during Phase II demolition activities to minimize the release of fugitive dust or other contaminants. Sediment and erosion controls were installed to control runoff.

2.2.2 Re-contour Site

After the X-760 Building slab, foundations, and neutralization pit were removed, DOE re-contoured the site to promote natural drainage and prevent pooling of stormwater. Excess on-site soil was pushed into the open areas where the slab, foundations, and neutralization pit were removed. Additional fill was imported to complete the re-contouring.

2.2.3 Site Restoration and Demobilization

The X-760 Building removal action site was seeded and mulched with straw to promote rapid growth of grass cover. Equipment, materials, and crews were demobilized.

2.2.4 Equipment Washing and Decontamination

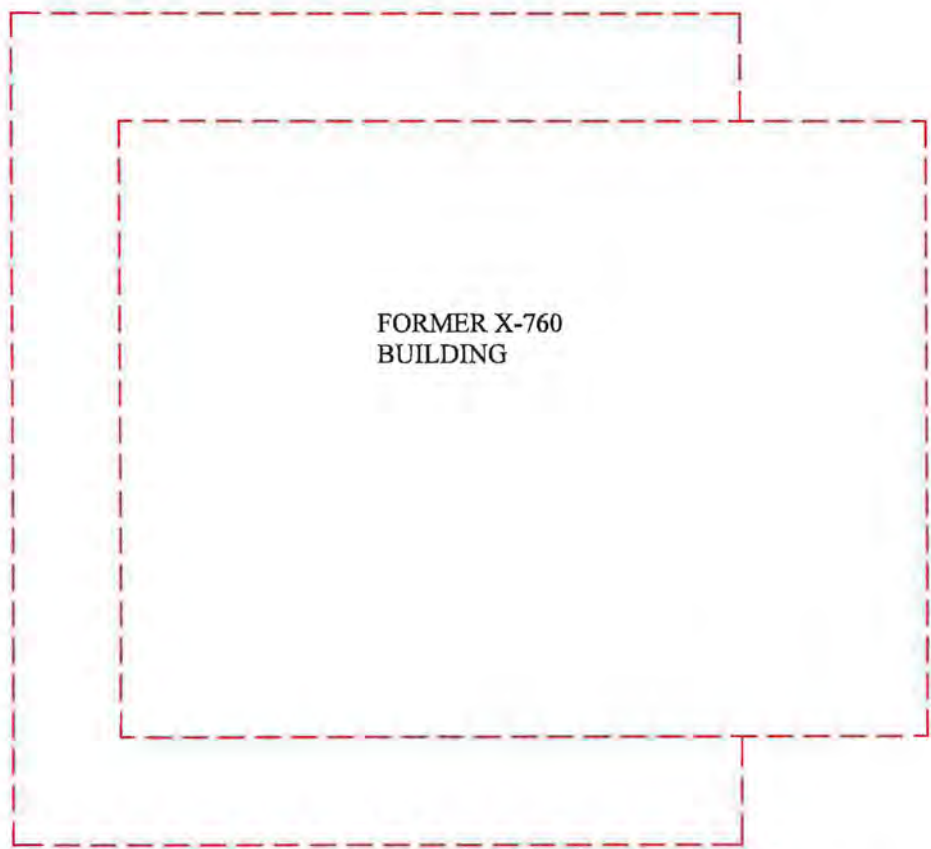
Demolition equipment was decontaminated, as necessary, using dry methods.

2.3 POST-REMOVAL STATE

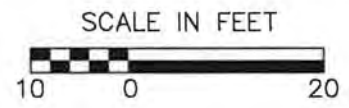
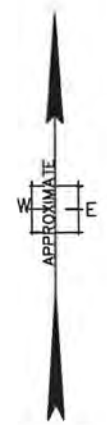
At the completion of Phase II of this non-time-critical removal action, the X-760 above-grade structure, concrete slab, foundation, and neutralization pit have been removed.

The locations of the former X-760 Building and former neutralization pit are shown in Figure 6. Pipes and utilities have been removed from the area as shown in the figure. The X-760 Building removal action site has been seeded and mulched with straw; and equipment, materials, and crews have been demobilized.

FORMER
NEUTRALIZATION
PIT 



- Notes: 1. Underground piping and utilities were removed from all areas shown.
2. All areas shown were seeded and mulched.



U.S. DEPARTMENT OF ENERGY PORTSMOUTH/PADUCAH PROJECT OFFICE		
TITLE X-760 Chemical Engineering Building Construction Completion Report-Phases I and II Figure 6 Phase II End State		
CLASS NO.	BLDG. NO.	
	X-760	

3. WASTE MANAGEMENT AND TRANSPORTATION ACTIVITIES

This section describes the management and transport of wastes generated during Phases I and II of the X-760 Building CERCLA non-time-critical removal action. Wastes were managed and disposed in accordance with the X-760 RAWP and the X-760 Building ARARs. The management of wastes included the collection of wastes and further characterization of wastes. Wastes were characterized by sampling and analysis or process knowledge to determine appropriate treatment and/or disposal.

As a best management practice, hazardous materials and non-fixed equipment were removed to the extent practicable during the non-CERCLA pre-demolition activities, so that building demolition debris would not be characterized as hazardous.

Waste was characterized, managed, and disposed in a manner that met ARARs for solid, hazardous, and TSCA wastes. Additional samples were collected in a manner that ensured the sample was representative of the entire waste stream. A representative sample of debris included all components of the waste in the same proportions as found in the demolition debris. Proportions were determined based on visual observation. Unless such a representative sample exhibited a hazardous characteristic, the debris was not handled as hazardous.

Both liquid and solid wastes were generated during this removal action.

Liquid Waste

Liquid waste generated during the X-760 Building CERCLA non-time-critical removal action consisted of collected surface water runoff and rainwater that had accumulated in the neutralization pit. Table 1 lists the quantities of liquid wastes generated during Phases I and II of the CERCLA non-time-critical removal action.

Table 1. Summary of liquid waste

Event	Volume	Disposal location
Phase I		
Collected surface water runoff	35,000 gallons	X-623 Groundwater Treatment Facility
Neutralization pit water	600 gallons	X-623 Groundwater Treatment Facility
Phase II		
Neutralization pit water	500 gallons	X-623 Groundwater Treatment Facility

Based on the analytical results of samples collected from the rainwater that had accumulated in the neutralization pit and consultation with Ohio EPA, the neutralization pit water was released through the X-623 Groundwater Treatment Facility.

Surface water (rain water and dust suppression water) that contacted the building debris and slab during Phase I was routed through the collection and containment system, which included a MyCelx filtration system to remove PCBs. Water that was processed through the filtration system was sampled for PCBs and, based on analytical results and following consultation with Ohio EPA, was processed through the X-623 Groundwater Treatment Facility. During the time the collection and containment system was operational, approximately 35,000 gallons of water was collected, treated and disposed.

Solid Waste

The total amounts of solid waste generated during the X-760 Building CERCLA non-time-critical removal action and waste disposal locations are provided in Table 2. A detailed listing of shipped waste is provided as Table 3. Manifests will be provided upon request. During Phase I, solid waste included, but was not limited to, steel, concrete, wood, fixed ancillary equipment, and personal protective equipment (PPE). During Phase II, solid waste included, but was not limited to, concrete, asphalt, and piping.

Table 2. Summary of solid waste

Waste Generation Activity	Type	Total weight (lbs)	Disposal Location
Phase I			
Collection and containment system trench excavation	LLW	140,566	EnergySolutions
Above-grade structure, fixed equipment, and collection and containment system removal	TSCA/LLW	1,660,206	EnergySolutions
Phase II			
At- and below-grade structures	TSCA/LLW	2,089,490	EnergySolutions
At- and below-grade structures	RCRA (F001 listed)/ TSCA/LLW	241,280	EnergySolutions
Filter material from neutralization pit dewatering	RCRA (F001, D007, and D009 listed)/LLW	11	EnergySolutions

Table 3. Shipment of solid waste

Waste Material	Type	Volume (cu ft)	Weight (lbs)	Disposal Location	Date Shipped	Container Type
Phase I						
Demolition Debris	TSCA/LLW	512	21,700	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	22,500	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	26,900	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	27,100	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	27,400	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	28,600	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	26,300	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	23,840	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,800	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	26,950	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	22,250	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	26,700	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	29,400	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	26,200	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,350	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	24,790	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	22,560	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	25,150	EnergySolutions	6/24/2010	Intermodal

Table 3. Shipment of solid waste (continued)

Waste Material	Type	Volume (cu ft)	Weight (lbs)	Disposal Location	Date Shipped	Container Type
Demolition Debris	TSCA/LLW	512	23,960	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	29,710	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	25,400	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	31,400	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	31,550	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	21,820	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	23,260	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	27,910	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	32,790	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	32,200	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	30,290	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,200	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	30,840	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	16,040	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	28,240	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	28,000	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	25,010	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	27,900	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	27,140	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	27,270	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	28,820	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	31,660	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,300	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,050	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	32,620	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	31,920	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	31,610	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	25,900	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,110	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	28,430	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,730	EnergySolutions	6/24/2010	Intermodal
Demolition Debris	TSCA/LLW	512	22,150	EnergySolutions	6/30/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,060	EnergySolutions	6/30/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,060	EnergySolutions	6/30/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,040	EnergySolutions	6/30/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,550	EnergySolutions	6/30/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,860	EnergySolutions	6/30/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,800	EnergySolutions	6/30/2010	Intermodal
Demolition Debris	TSCA/LLW	512	36,300	EnergySolutions	6/30/2010	Intermodal
Demolition Debris	TSCA/LLW	512	8,600	EnergySolutions	9/29/2010 ^(a)	Intermodal

Table 3. Shipment of solid waste (continued)

Waste Material	Type	Volume (cu ft)	Weight (lbs)	Disposal Location	Date Shipped	Container Type
Demolition Debris	TSCA/LLW	96	3,216	EnergySolutions (subject to change)	Awaiting shipment ^(b)	B-25 Box ^(c)
Excavation Debris	LLW	3562	140,566	EnergySolutions	11/18/2010 ^(a)	Supergondola ^(d)
Phase II						
Demolition Debris	TSCA/LLW	512	32,450	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,600	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,120	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,870	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,850	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,700	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,450	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,050	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,650	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,200	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,700	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,750	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,800	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,200	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,500	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,600	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	362	35,400	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,650	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,150	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,400	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,500	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	31,850	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,350	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	150	4,700	EnergySolutions	9/29/2010	Intermodal
Demolition Debris	TSCA/LLW	512	31,660	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	31,090	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	32,450	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,320	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,900	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,200	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,100	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,370	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,570	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	36,500	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,000	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,600	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,720	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,060	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,570	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,110	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	32,490	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,600	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,410	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,350	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,900	EnergySolutions	12/14/2010	Intermodal

Table 3. Shipment of solid waste (continued)

Waste Material	Type	Volume (cu ft)	Weight (lbs)	Disposal Location	Date Shipped	Container Type
Demolition Debris	TSCA/LLW	512	33,920	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,770	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,010	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	36,300	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,900	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,200	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,480	EnergySolutions	12/23/2010	Intermodal
Demolition Debris	TSCA/LLW	512	32,360	EnergySolutions	12/23/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,090	EnergySolutions	12/23/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,100	EnergySolutions	12/23/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,140	EnergySolutions	12/23/2010	Intermodal
Demolition Debris	TSCA/LLW	512	36,700	EnergySolutions	12/23/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,450	EnergySolutions	12/23/2010	Intermodal
Demolition Debris	TSCA/LLW	512	35,950	EnergySolutions	12/23/2010	Intermodal
Demolition Debris	TSCA/LLW	512	33,260	EnergySolutions	12/23/2010	Intermodal
Demolition Debris	TSCA/LLW	512	34,200	EnergySolutions	12/23/2010	Intermodal
Demolition Debris	TSCA/LLW	512	19,200	EnergySolutions	12/23/2010	Intermodal
Demolition Debris	RCRA/TSCA/LLW	512	34,520	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	RCRA/TSCA/LLW	512	35,020	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	RCRA/TSCA/LLW	512	32,860	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	RCRA/TSCA/LLW	512	34,410	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	RCRA/TSCA/LLW	512	34,430	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	RCRA/TSCA/LLW	512	35,600	EnergySolutions	12/14/2010	Intermodal
Demolition Debris	RCRA/TSCA/LLW	512	34,440	EnergySolutions	12/14/2010	Intermodal
Filter Material	RCRA/LLW	7	11	EnergySolutions	Awaiting shipment ^(b)	55-gallon drum

- (a) Container was removed from the X-760 Building site prior to being shipped from the PORTS site.
- (b) Waste has been removed from the X-760 Building site but is awaiting shipment from the PORTS site.
- (c) It is anticipated that the B-25 box will be shipped via truck for disposal.
- (d) Supergondola contains additional PORTS waste (not included in listed weight) from project(s) unrelated to the X-760 Building.

4. DEVIATIONS FROM THE X-760 BUILDING RAWP

4.1 PRE-DEMOLITION ACTIVITIES

As described in the X-760 RAWP, pre-demolition activities were not conducted as part of the CERCLA non-time-critical removal action for the X-760 Building. These activities, which are described in Section 1.5 of this Construction Completion Report, were conducted as maintenance actions under DOE's Atomic Energy Act authority and were executed in accordance with all statutory and regulatory requirements including, but not limited to, the National Environmental Policy Act of 1969; Ohio's Hazardous Waste Laws and Rules, as found in Chapter 3734 of the Ohio Revised Code and Chapter 3745 of the Ohio Administrative Code (OAC); OAC 3745-20 regarding asbestos; the Toxic Substances Control Act requirements for the Management of PCBs as found in 40 CFR 761; the requirements of the facility's current hazardous waste permit; and the 1989 Consent Decree regarding the investigation and remediation of environmental media.

The maintenance actions included disconnection and isolation of utilities (other than fire suppression, communication, sanitary water, and critical alarm systems). The X-760 RAWP incorrectly stated that the pre-demolition activities were conducted prior to the initiation of the X-760 Building CERCLA non-time-critical removal action. All of the pre-demolition activities which were necessary to be conducted before the initiation of Phase I of the CERCLA non-time-critical removal action were conducted prior to the demolition of the building. However, recycling and/or disposal of some pre-demolition wastes were conducted after the initiation of the CERCLA non-time-critical removal action. In addition, the isolation of the storm sewer (a maintenance action activity) was deferred until after demolition of the above-grade structure. Prior to demolition of the above-grade structure, the storm sewer lines were plugged where drains penetrated the X-760 Building slab. The storm sewer line from the X-760 Building was isolated from the PORTS storm sewer system during Phase II, as part of the activities associated with the removal of the X-760 Building concrete footers.

4.2 DEMOBILIZATION

The X-760 RAWP stated that demolition equipment and crews would be demobilized from the site as part of Phase I of the CERCLA non-time-critical removal action. The collection and containment system was demobilized from the X-760 Building removal action site. However, as discussed in Section 2.1.6 of this Construction Completion Report, due to the final schedule of Phase II of the X-760 Building CERCLA non-time-critical removal action, demobilization was unnecessary for a majority of the equipment. Most of the equipment utilized for Phase I of the removal action was used for Phase II. In addition, various excavator attachments remained at the X-760 Building removal action site during Phase II, awaiting transfer to similar removal action sites at PORTS. Equipment, materials, and crews were demobilized at the end of Phase II.

The X-760 RAWP stated that the trailers at the X-760 Building would be removed at the end of Phase II of the CERCLA non-time-critical removal action. However, it was determined that the trailers could be used to support other PORTS projects after the completion of the X-760 removal action. A field change was submitted to Ohio EPA through electronic mail on January 21, 2011, and Ohio EPA's concurrence with the field change was received through electronic mail on January 24, 2011. A formal copy of the field change was submitted to Ohio EPA on January 31, 2011. (See Appendix B.)

5. PROJECT SCHEDULE

Project schedules for the completed Phase I and Phase II activities are provided in Tables 4 and 5, respectively.

Table 4. Phase I schedule for removal of the X-760 Building

Activity	Start Date	Completion Date
Remove fixed equipment and demolish above-grade structure	May 25, 2010	June 20, 2010*
Seal concrete slab	June 23, 2010	June 28, 2010
Complete Phase I	August 27, 2010**	

*Completion date included loading of waste containers.

**Completion date based on demobilization of collection and containment system frac tanks.

Table 5. Phase II schedule for removal of the X-760 Building

Activity	Start Date	Completion Date
Remove concrete slab	July 26, 2010	August 5, 2010
Remove foundations	October 6, 2010	October 27, 2010
Remove neutralization pit	October 22, 2010	October 23, 2010
Re-contour and restore site	December 2, 2010	January 27, 2011
Complete Phase II	January 27, 2011	

6. REFERENCES

- DOE 1996. *Quadrant I Resource Conservation and Recovery Act (RCRA) Building Investigation Report*. DOE/OR11-1231/V1&D3.
- DOE 2010a. *Engineering Evaluation/Cost Analysis for the X-760 Chemical Engineering Building at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*. DOE/PPPO/03-0100&D1. February.
- DOE 2010b. *Action Memorandum for the Removal of the X-760 Chemical Engineering Building at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*. DOE/PPPO/03-0111&D1. April.
- DOE 2010c. *X-760 Chemical Engineering Building Removal Action Work Plan at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio*. DOE/PPPO/03-0108&D1. May.
- TPMC 2006. *Facility Condition Survey of the Portsmouth Gaseous Diffusion Plant Facilities, Piketon, Ohio*. TPMC/PORTS-59/R1. August.

APPENDIX A
PHOTOGRAPHS



Figure 1. Photograph of the X-760 Building: east side – before demolition



Figure 2. Photograph of the X-760 Building: west side – before demolition



Figure 3. Photograph of the X-760 Building: southwest corner – before demolition



Figure 4. Photograph of the X-760 Building: south side – before demolition



Figure 5. Photograph of the X-760 Building: south side – during above-grade structure demolition



Figure 6. Photograph of the X-760 Building: south side – during above-grade structure demolition



Figure 7. Photograph of the X-760 Building: south side – during above-grade structure demolition



Figure 8. Photograph of the X-760 Building: northwest corner – during above-grade structure demolition



Figure 9. Photograph of the X-760 Building: south side – during above-grade structure demolition



Figure 10. Photograph of the X-760 Building: northwest corner – after above-grade structure demolition



Figure 11. Photograph of the X-760 Building foundation – during concrete processing



Figure 12. Photograph of the X-760 Building foundation – during concrete processing and removal



Figure 13. Photograph of the X-760 Building removal action site – during site re-contouring

APPENDIX B
FIELD CHANGE DOCUMENTS

Strayer, Dave

From: Wiehle, Kristi [Kristi.Wiehle@lex.doe.gov]
Sent: Friday, January 21, 2011 12:01 PM
To: Maria Galanti
Cc: Richmond, Rosemary; Strayer, Dave; Koenig, Amanda; Lawson, Amy; Uetrecht, Greg (PPPO/ETS)
Subject: X-760 Field Change - Trailers
Attachments: X-760 RAWP_FC_Redline Page 19_11-01-17.pdf; X-760 RAWP_FC_Replacement Page 19_11-01-17.pdf

Maria,

Similar to the field change request just identified for the X-533 Removal Action, DOE has identified a benefit to leaving the trailers at the X-760 Chemical Engineering Building in place after completion of the X-760 CERCLA removal action. The trailers would continue to be used to support the X-103 removal action and other future projects. As the current X-760 Removal Action Work Plan calls for removal of the trailers upon completion of the X-760 removal action, we are requesting Ohio EPA concurrence with a field change to allow the trailers to remain to be used to support future projects.

Redlined and clean copies of the page change to the Removal Action Work Plan are attached for your review and use.

If you are wondering, like I did, if any of the other projects had similar language and would need to keep trailers in place as well (X-701B and X-633), I asked and was told that a field change request was not needed for any of the other projects.

Please let me know if you have any questions regarding this request.

Thanks and have a great weekend!

Kristi Wiehle

DOE-Portsmouth Paducah Project Office
 Phone: (740) 897-5020
 Fax: (740) 897-2982
kristi.wiehle@lex.doe.gov

From: Koenig, Amanda [mailto:akoenig@LATA.com]
Sent: Monday, January 17, 2011 1:04 PM
To: Wiehle, Kristi; Lawson, Amy; Uetrecht, Greg (PPPO/ETS)
Cc: Sharp, Dave (LPP); Richmond, Rosemary (LPP); wgarland@lppports.com; Strayer, David
Subject: X-760 Field Change - Trailers

Kristi,

LPP has identified a benefit to leaving the trailers at the X-760 Building in place after completion of the X-760 D&D project. The trailers would continue to be used to support other projects. The current X-760 Removal Action Work Plan requires that the trailers be demobilized upon project completion. We recommend that DOE request Ohio EPA concurrence on a field change to allow the trailers to remain in place after the X-760 CERCLA removal action is complete.

Draft text of an email to the Ohio EPA follows:

=====

Draft language for Ohio EPA

=====

=====

End draft language

=====

Please let me know if I can provide anything further.

Thanks,
Amanda

Amanda Koenig
Los Alamos Technical Associates, Inc.
756 Park Meadow Rd.
Westerville, OH 43081
614-508-1212
akoenig@lata.com

Strayer, Dave

From: Wiehle, Kristi [Kristi.Wiehle@lex.doe.gov]
Sent: Monday, January 24, 2011 8:52 AM
To: Strayer, Dave; Richmond, Rosemary
Subject: Fw: X-760 Field Change - Trailers

From: Maria Galanti [mailto:maria.galanti@epa.state.oh.us]
Sent: Monday, January 24, 2011 08:42 AM
To: Wiehle, Kristi
Subject: Re: X-760 Field Change - Trailers

Kristi,

Ohio EPA concurs with the field change for the trailers to remain at X-760. I believe it is prudent to leave the trailers to save resources and enable D&D to continue at the site.

>>> "Wiehle, Kristi" <Kristi.Wiehle@lex.doe.gov> 1/21/2011 12:01 PM >>>

Maria,

Similar to the field change request just identified for the X-533 Removal Action, DOE has identified a benefit to leaving the trailers at the X-760 Chemical Engineering Building in place after completion of the X-760 CERCLA removal action. The trailers would continue to be used to support the X-103 removal action and other future projects. As the current X-760 Removal Action Work Plan calls for removal of the trailers upon completion of the X-760 removal action, we are requesting Ohio EPA concurrence with a field change to allow the trailers to remain to be used to support future projects.

Redlined and clean copies of the page change to the Removal Action Work Plan are attached for your review and use.

If you are wondering, like I did, if any of the other projects had similar language and would need to keep trailers in place as well (X-701B and X-633), I asked and was told that a field change request was not needed for any of the other projects.

Please let me know if you have any questions regarding this request.

Thanks and have a great weekend!

1/25/2011

Kristi Wiehle

DOE-Portsmouth Paducah Project Office

Phone: (740) 897-5020

Fax: (740) 897-2982

kristi.wiehle@lex.doe.gov

From: Koenig, Amanda [mailto:akoenig@LATA.com]
Sent: Monday, January 17, 2011 1:04 PM
To: Wiehle, Kristi; Lawson, Amy; Uetrecht, Greg (PPPO/ETS)
Cc: Sharp, Dave (LPP); Richmond, Rosemary (LPP); wgarland@lppports.com; Strayer, David
Subject: X-760 Field Change - Trailers

Kristi,

LPP has identified a benefit to leaving the trailers at the X-760 Building in place after completion of the X-760 D&D project. The trailers would continue to be used to support other projects. The current X-760 Removal Action Work Plan requires that the trailers be demobilized upon project completion. We recommend that DOE request Ohio EPA concurrence on a field change to allow the trailers to remain in place after the X-760 CERLCA removal action is complete.

Draft text of an email to the Ohio EPA follows:

=====

Draft language for Ohio EPA

=====

=====

End draft language

=====

Please let me know if I can provide anything further.

Thanks,

Amanda

Amanda Koenig

Los Alamos Technical Associates, Inc.

756 Park Meadow Rd.

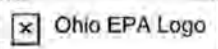
Westerville, OH 43081

614-508-1212

akoenig@lata.com

Ohio Environmental Protection Agency Unless otherwise provided by law,

this communication and any response to it constitutes a public record.





Department of Energy

Portsmouth/Paducah Project Office
1017 Majestic Drive, Suite 200
Lexington, Kentucky 40513
(859) 219-4000

JAN 31 2011

Ms. Maria Galanti
Ohio Environmental Protection Agency
2195 Front Street
Logan, Ohio 43138

PPPO-03-1129435-11

Dear Ms. Galanti:

PROJECT CHANGES FOR THE X-533 SWITCHYARD COMPLEX REMOVAL ACTION WORK PLAN AT THE PORTSMOUTH GASEOUS DIFFUSION PLANT, PIKETON, OHIO (DOE/PPPO/03-0104&D2) AND THE X-760 CHEMICAL ENGINEERING BUILDING REMOVAL ACTION WORK PLAN AT THE PORTSMOUTH GASEOUS DIFFUSION PLANT, PIKETON, OHIO (DOE/PPPO/03-0108&D1)

This purpose of this letter is to provide Ohio Environmental Protection Agency (Ohio EPA) with the enclosed project change requests for the *X-533 Switchyard Complex Removal Action Work Plan at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio (X-533 RAWP) (DOE/PPPO/03-0104&D2)* and the *X-760 Chemical Engineering Building Removal Action Work Plan at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio (X-760 RAWP) (DOE/PPPO/03-0108&D1)*. These project changes will permit the Department of Energy (DOE) to leave the office trailers in place at the X-533 project site and the X-760 project site. The trailers will be used to support future Decontamination & Decommissioning activities in those areas. The proposed changes were transmitted via electronic mail on January 14 and 21, 2011. Ohio EPA approved these changes on January 18 and 24, 2011, respectively. This letter serves to provide you with a formal copy of both the X-533 and X-760 field changes.

The redlined and clean copies of the page changes to the X-533 and X-760 Removal Action Work Plans (RAWP) have been provided. Please remove the existing pages from each work plan and exchange them with the clean replacement pages.

If you have any questions or require additional information, please contact Kristi Wiehle of my staff at (740) 897-5020.

Sincerely,

A handwritten signature in black ink, appearing to read "Joel B. Bradburne", written over a large, stylized flourish.

Joel B. Bradburne
Portsmouth Site Lead
Portsmouth/Paducah Project Office

Enclosures:

1. X-533 RAWP - Redline pages 16 and 17
2. X-533 RAWP - Replacement pages 16 and 17
3. X-760 RAWP - Redline page 19
4. X-760 RAWP - Replacement page 19

cc w/enclosures:

Vince.Adams@lex.doe.gov, PPPO/PORTS

Kristi.Wiehle@lex.doe.gov, PPPO/PORTS

lbauer@lppports.com, LPP/PORTS

Administrative Record – CERCLA

PPPO Records/LEX

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File—LPP RMDC—RC